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1958 CATALOG
GLASS BLOCKS

PC

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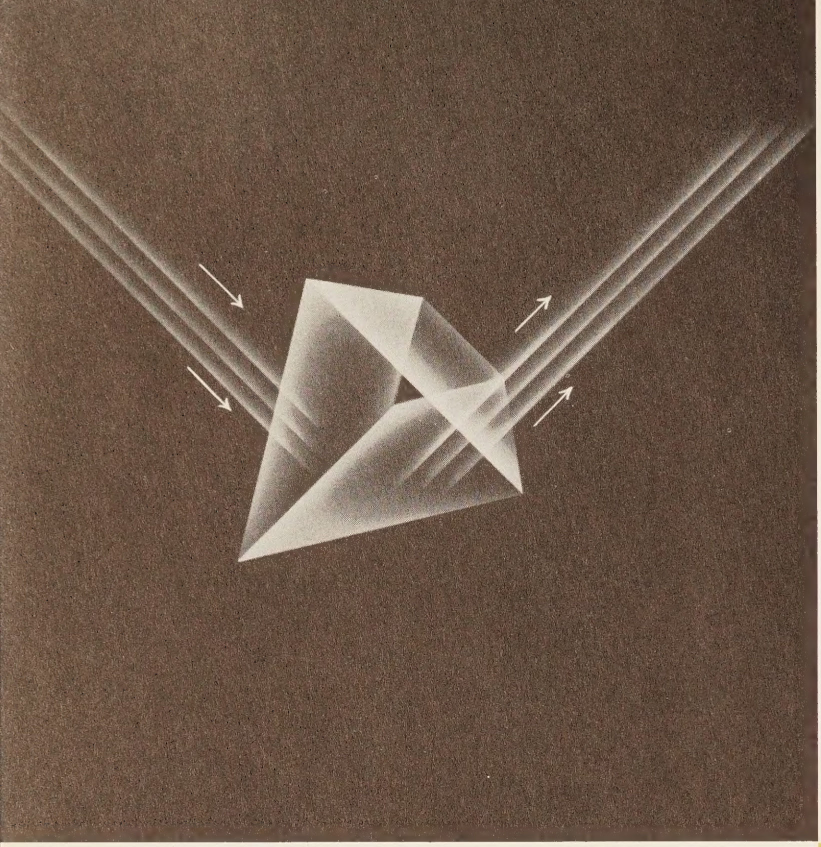
PITTSBURGH CORNING CORPORATION

PITTSBURGH 22, PENNSYLVANIA



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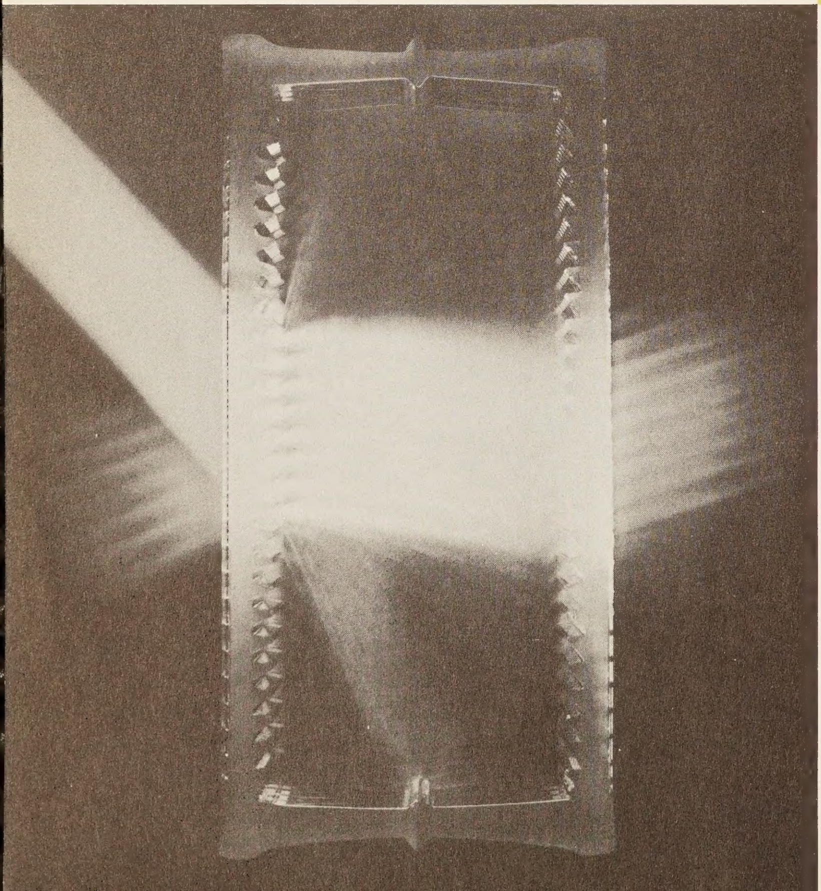

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PC PC

A PC Glass Block is made by fusing two sections of clear, pressed glass together at elevated temperatures. The result is a hollow, partially-evacuated all-glass building unit combining most of the desirable properties of glass and masonry in a single product. In addition, PC Glass Blocks provide some important advantages not found in other glass or masonry products. The complete study of this product, contained on the following pages, will be of particular interest to Architects.

In the curtain wall concept of Architecture for buildings today, certain basic considerations must be answered. If these considerations include Color and Texture, Reasonable Initial Cost and Low Maintenance Expense, Low Surface Condensation and Good Insulation Value, Privacy and Protection, and a Better Use of Daylight, we strongly suggest that you investigate PC Glass Blocks.

We believe that Glass Blocks, including our new line of Color Glass Blocks, offer a solution to many of the basic problems of curtain wall construction. The important advantages of Good Insulation Value and Low Maintenance Expense alone suggest that Glass Blocks can answer a complex problem present in curtain wall construction. But, if you go a step further and compare the quality of *controlled* daylight that glass blocks offer, to the flood of *uncontrolled* daylight from other materials, the tremendous advantages of glass blocks become immediately apparent. Still further, you realize that these are advantages not only in terms of design and construction, but also in terms of the "human element"—the people working or living in the building.

There are two basic kinds of PC Glass Blocks: Functional Block and Decorative Block. Functional Blocks take daylight and make it work for the building and its occupants. Available in two sizes, they direct or diffuse the light and help to distribute it throughout the room. Decorative Blocks give six texture types in three sizes, and Color Glass Blocks are available in four standard colors in one size making possible wide variation in Curtain Wall design.

CURTAIN WALLS AND GLASS BLOCKS

Because of their good thermal insulating value, PC Glass Blocks also help reduce heating and cooling costs and answer the problem of surface condensation. This very important fact, plus the extremely low maintenance cost of glass blocks helps to make them one of the really desirable materials for Curtain Walls. In curtain wall construction today, a point has been reached where "Privacy" is again desired. With some patterns of glass block, this desire can be achieved in part of a Curtain Wall while the "Continuity of the Skin" remains undisturbed.

Two other considerations should be mentioned. One is the "security aspect" of glass block panels. Physically speaking, they have sufficient strength to deter anyone against entry. Psychologically speaking, they have the ability to help people feel secure when working near the outside edge of a building. In multi-storied structures this is a frequent problem. The other consideration is the all-important one of cost. Compared to other curtain wall materials glass blocks offer greater advantages, often at less cost—both initially and over the life of the installation. With the framework up, a Glass Block Curtain Wall can be installed, finished inside and out, by one trade in one operation.

We feel that Pittsburgh Corning Glass Blocks offer the kind of aesthetic and functional advantages that make them one of the most desirable and economical materials to use in Curtain Wall Construction. When the product is properly designed into a structure, the result can be a creative design solution as well as a practical, functioning part of Architecture.

PC PC

COLOR GLASS BLOCKS BY PITTSBURGH CORNING

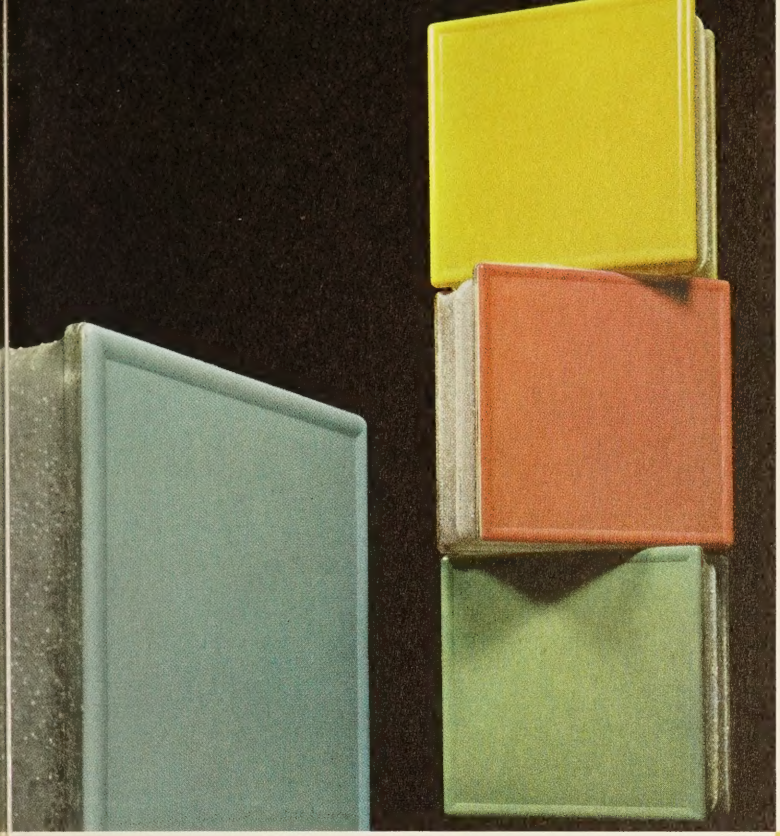
With the introduction of Color to Glass Blocks, we at Pittsburgh Corning feel that we now offer a complete choice of glass blocks for any Curtain Wall structure. Now, the Architect can not only choose functional block to direct sunlight, or to diffuse daylight (or use non-functional, decorative block where the emphasis is on texture), but he can achieve the multi-floor patterns of his design with color and still retain the "Continuity of the Skin." With Color Glass Blocks it is now possible to control and modulate the transparency of the curtain wall with the use of ONE material, and still be able to employ more than one color when desired.

Color is applied to PC Color Glass Blocks by spraying an inorganic, ceramic-enamel "frit" onto the block face and firing it onto the block at high temperatures. This results in a glossy, scratch- and abrasion-resistant finish which exhibits the same thermal expansion characteristics as the basic glass.

COLOR GLASS BLOCKS BY PITTSBURGH CORNING

The choice of expression offered to the Architect in glass block curtain wall construction extends from completely transparent, water-clear glass, to completely translucent glass; from a functional block to a decorative block, and into colored glass blocks that are available in the standard colors of coral, yellow, green and blue. Other colors of the spectrum ranging from white to black can be produced on special order when a sufficient quantity is involved. Thus, the design opportunities for the Architect are unlimited. New uses of color in building immediately become apparent. Creative use of Color Glass Block can enrich the design of contemporary churches and contribute a quiet, religious feeling. On the other hand it can express the gaiety of a cabana club, or define the many floors of offices of a skyscraper. Color Glass Block gives the Creative Architect a new material to use and helps him translate his designs into reality.

More detailed information on PC Color Glass Blocks is available on request. Ask your PC Architectural Representative or contact our office nearest you (see Page 31).



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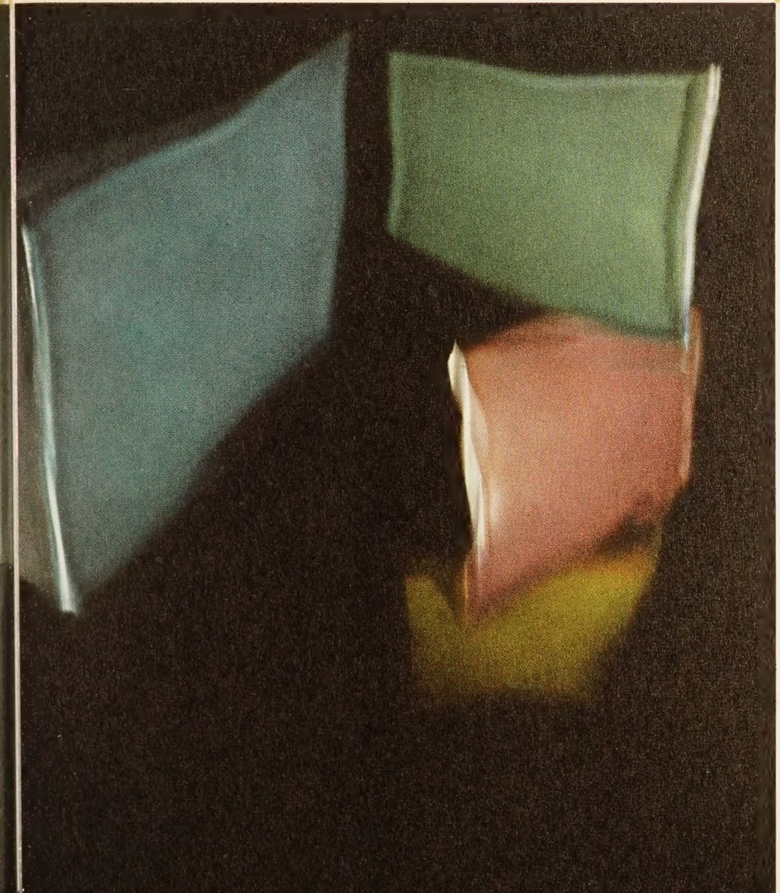


CHARACTERISTICS OF FUNCTIONAL GLASS BLOCKS

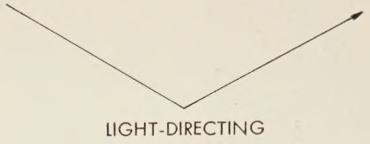
PC Functional Glass Blocks contain built-in prisms and corrugations and, in some blocks, an internal fibrous glass filter that alter the path of transmitted light. One type bends the incoming light rays upward onto the ceiling plane. This is termed a *light-directing* block and generally should be used above eye-level. Another type diffuses the transmitted light in all directions. This is known as a *light-diffusing* block and can be used either above or below eye-level. Both light-diffusing and light-directing blocks spread the transmitted daylight horizontally into the far corners of the room. A choice of three degrees of control is available in both the light-directing and the light-diffusing types. Thus the Architect can select a block suited to his particular design problem.

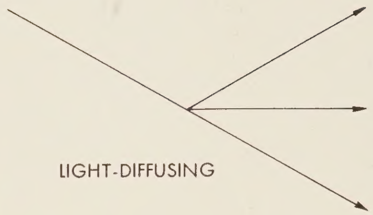
The orientation of a building elevation is one of the factors determining the selection of Functional Block to be used. For example: on the East, South, or West elevations of a building, glass blocks are used that reduce the light to a usable value and at the same time provide better protection against glare and insulation against radiant heat from the sun. On Northern elevations where there is no direct sunlight, glass blocks are used that primarily transmit light. Another factor affecting choice of the proper block is the ceiling of the room or area inside the panel. Light-directing blocks are fully effective only with light-colored, high-reflectance ceilings. Where ceilings are dark or cluttered, light-diffusing blocks should be used above eye-level as well as below.

To answer the need for *maximum* control under extreme sun conditions, PC **Suntrol** Blocks are recommended. They contain a pale green fibrous glass filter that reduces brightness by 35% and instantaneous heat gain by 25%. This filter, dividing the interior into two compartments, is an integral part of the block (see cutaway view, Page 9).

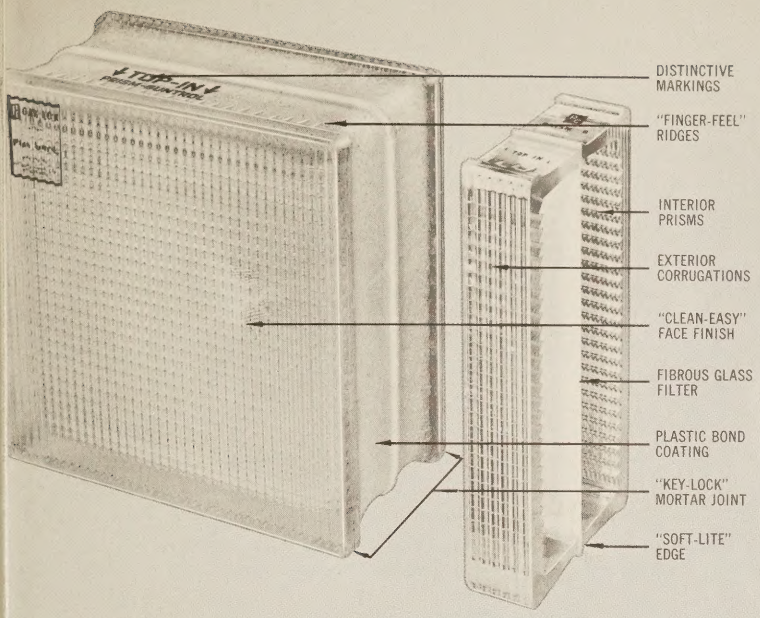
Where a *medium* degree of brightness and solar heat control is desired, PC **"LX"** Functional Blocks are recommended. They contain a white fibrous glass filter which, like the green filter in Suntrol blocks, is an integral part of the product and divides the interior into two dead-air spaces, providing greater insulation value.

For conditions where only a *normal* degree of control is necessary, regular functional blocks containing no filter (and without "Suntrol" or "LX" designation) are recommended.





"Suntrol" is a registered trademark of Pittsburgh Corning Corporation.



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FUNCTIONAL BLOCK FEATURES

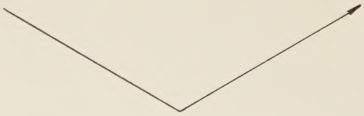
Soft-Lite® edges are an obscure opal glass insert at the edge seal where the two halves of the block are joined (see cutaway photo above). Soft-Lite edges are provided on all PC Functional Blocks designed for sun exposures. They reduce brightness of blocks at the edges so that a panel of blocks has a uniform appearance. The Bristol non-sun exposure block does not have this edge and consequently, is not recommended where direct sun rays will hit the panel.

Every PC Functional Block is stamped with distinctive markings to show block identification and proper positioning in the panel. Careful attention to proper mounting position is important, both from a performance and appearance view point. In addition, special "Finger-Feel" ridges are cast into the top mortar edge of most blocks to further assist the mason.

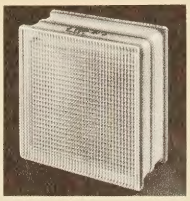
Other features include a "Key-Lock" mortar joint and plastic bond coating for water-tight construction, and a "Clean-Easy" face finish for easier clean-up on the job.

LIGHT-DIRECTING BLOCKS

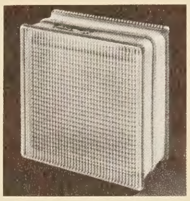
(used above eye-level only)



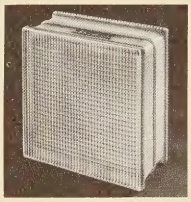
PRISM B is a light-directing functional glass block containing interior prisms that throw the light upward onto the ceiling plane, and exterior corrugations which collect light on the outside and spread it horizontally on the inside. It is recommended for use on either sun or non-sun exposures wherever a light-directing block is suitable. Its use on sun exposures is recommended where a maximum of light transmission is desired and where minimum control of brightness and solar heat is acceptable. PRISM B (without LX Filter) is available only in an 8-inch square.



PRISM B LX is a light-directing functional glass block of the same design as PRISM B, but with the addition of a white fibrous glass filter which helps reduce glare and solar heat gain. It is recommended for use on sun exposures wherever a light-directing block is suitable, and where medium light transmission and control of brightness and solar heat are acceptable. PRISM B LX is available in 8-inch and 12-inch squares.



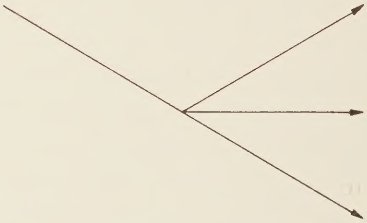
PRISM SUNTROL is a light-directing functional glass block of the same design as PRISM B but with the addition of a pale green fibrous glass filter. This filter, more dense than the PRISM B LX filter, reduces glare and solar heat gain to a greater degree. It is recommended for use on sun exposures wherever a light-directing block is suitable, and where minimum light transmission is acceptable and maximum control of brightness and solar heat is desired. PRISM SUNTROL is available in 8-inch and 12-inch squares.



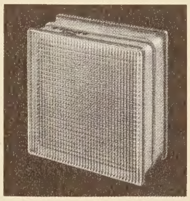
FUNCTIONAL BLOCKS
TWO TYPES OF CONTROL

LIGHT-DIFFUSING BLOCKS

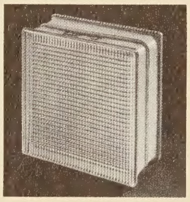
(used above or below eye-level)



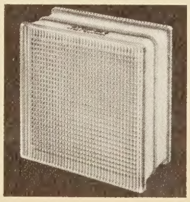
ESSEX is a light-diffusing functional glass block containing interior and exterior corrugations that temper the raw sunlight and diffuse it in all directions. It is recommended for use on either sun or non-sun exposures wherever a light-diffusing block is suitable. Its use on sun exposures is recommended where a maximum of light transmission is desired and where minimum control of brightness and solar heat is acceptable. ESSEX (without LX filter) is available only in an 8-inch square.



ESSEX LX is a light-diffusing functional glass block of the same design as ESSEX but with the addition of a white fibrous glass filter which helps reduce glare and solar heat gain. It is recommended for use on sun exposures wherever a light-diffusing block is suitable, and where medium light transmission and control of brightness and solar heat are acceptable. ESSEX LX is available in 8-inch and 12-inch squares.



ESSEX SUNTROL is a light-diffusing functional glass block of the same design as ESSEX but with the addition of a pale green fibrous glass filter. This filter, more dense than the ESSEX LX filter, reduces glare and solar heat to a greater degree. It is recommended for use on sun exposures wherever a light-diffusing block is suitable, and when minimum light transmission is acceptable and maximum control of brightness and solar heat is desired. ESSEX SUNTROL is available in 8-inch and 12-inch squares.



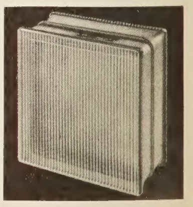
GENERAL PURPOSE BLOCKS

BRISTOL and BRISTOL LX

(For non-sun elevations) *(For sun elevations)*

When it is not practical to combine the various functional blocks outlined at the left and above, we suggest the use of BRISTOL or BRISTOL LX throughout the entire building. These blocks are frequently used on sash replacement jobs when fenestration openings do not permit ideal block selection. BRISTOL and BRISTOL LX, since they are *light-diffusing* blocks, are excellent for use where dark or high, cluttered ceilings will not reflect enough light from *light-directing* blocks.

The BRISTOL LX is also widely used where maximum insulation is required. This block is of the same design as BRISTOL except that its interior is divided into two cavities by a white fibrous glass filter. This reduces heat loss as well as heat gain from the sun. Both BRISTOL and BRISTOL LX are available only in an 8-inch square.

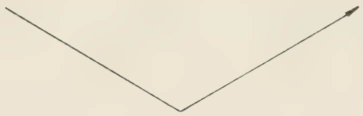


LIGHT-DIRECTING BLOCKS
(used above eye-level only)

Exposure of Panel	Performance Desired		Block Recom-mended	Sizes Available	
	Light Transmission	Brightness and Solar Heat Control		8″	12″
Sun	Maximum	Minimum	Prism B	■	
	Medium	Medium	Prism B LX	■	■
	Minimum	Maximum	Prism Suntrol	■	■
Non-Sun	Maximum	Minimum	Prism B*	■	

***LX and Suntrol Blocks may be used on non-sun exposures with corresponding reduction in light transmission and increase in control of brightness and heat gain.**

NOTE: Do not use light-directing blocks BELOW eye-level because they will throw light up into your eyes. EYE-LEVEL is considered to be 6 feet above the finish floor.

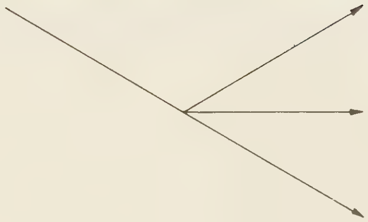


FUNCTIONAL BLOCK SELECTION TABLES

LIGHT-DIFFUSING BLOCKS
(used above or below eye-level)

Exposure of Panel	Performance Desired		Block Recom-mended	Sizes Available	
	Light Transmission	Brightness and Solar Heat Control		8″	12″
Sun	Maximum	Minimum	Essex	■	
	Medium	Medium	Essex LX	■	■
	Minimum	Maximum	Essex Suntrol	■	■
Non-Sun	Maximum	Minimum	Essex*	■	

***LX and Suntrol Blocks may be used on non-sun exposures with corresponding reduction in light transmission and increase in control of brightness and heat gain.**



Actual block dimensions:

8 inch size—7¾″'x 7¾″

12 inch size—11¾″ x 11¾″

All blocks are 3⅞″ thick.

PHYSICAL
PERFORMANCE DATA

SOLAR HEAT GAIN

Solar, or radiant, heat gain through a fenestration can normally be considered for two circumstances. In air-conditioned buildings, both the rate of heat flow through the fenestration and the reradiation characteristics are important. These properties, for unshaded panels of 8″ glass blocks, are shown in the accompanying table of instantaneous heat gain, which expresses a rate of heat flow, not total heat gain, for summer conditions. The rate of heat flow, both radiant and conducted, through glass block panels is only 30%—75%, depending on pattern, of that through conventional glazing media. Because glass block panels have a relatively high mass, some of this heat flow is absorbed and reradiated diffusely. These factors should be taken into account in the design and sizing of the air-conditioning system. In ventilated, but uncooled buildings, the summer time room temperatures in equivalent spaces fenestrated with either glass block or conventional materials will be quite similar, but there will be a lag in the temperature changes in the glass block fenestrated area. Under these conditions, the reradiation characteristics of glass block panels may cause the sensation of higher heat flow, and should be taken into account in the design and orientation of the glass block panels, and the type and method of ventilation. More complete information on the heat flow characteristics of glass blocks may be found in the current A. S. H. & A. E. Guide.

INSTANTANEOUS HEAT GAIN IN BTU./HR./SQ. FT.

GLASS BLOCK TYPES* AND PATTERNS	EXPOSURE OF PANEL	SUN TIME										
		8 am	9 am	10 am	11 am	12 pm	1 pm	2 pm	3 pm	4 pm	5 pm	6 pm
		DRY BULB TEMPERATURE (OUTDOOR) °F.										
		77	80	83	87	90	93	94	95	94	93	91
TYPE I†	N	7	7	10	12	14	16	17	18	18	17	20
ARGUS	E	118	94	67	44	24	22	23	23	21	19	51
ARGUS PARALLEL FLUTES	SE	70	76	69	56	41	23	18	18	17	16	13
	S	8	17	29	39	42	46	42	33	23	19	15
DECORA	SW	6	8	10	14	24	49	74	93	94	81	54
VUE	W	6	9	11	14	16	27	59	102	136	142	104
TYPE II BRISTOL	N	7	7	10	12	14	16	17	18	18	17	20
	E	109	85	66	43	24	22	23	23	21	19	15
	SE	65	71	67	55	41	23	18	13	17	16	13
	S	8	16	28	39	42	46	41	32	23	19	15
	SW	6	8	10	14	24	48	72	88	89	77	52
	W	6	9	11	14	16	26	58	96	127	134	97
TYPE III BRISTOL LX	N	6	6	8	10	12	14	15	17	17	16	19
	E	93	73	58	40	22	20	21	22	20	18	14
	SE	54	62	60	52	38	21	17	17	17	15	12
	S	7	14	24	35	40	42	37	30	22	18	14
	SW	5	7	9	12	20	45	65	79	78	68	49
	W	5	8	9	12	14	23	50	81	100	114	90
TYPE IV A ESSEX	N	5	5	7	9	11	13	14	16	16	15	18
	E	80	73	63	40	21	19	20	21	19	17	14
	SE	44	60	66	57	41	20	16	16	15	14	12
	S	6	12	23	38	45	45	36	28	21	17	14
	SW	4	6	8	11	18	50	71	77	68	58	42
	W	4	7	8	11	13	23	55	81	87	94	69
TYPE V PRISM B	N	5	5	8	10	12	14	15	16	16	15	18
	E	98	88	69	41	22	20	21	21	19	17	14
	SE	47	71	71	58	39	20	16	16	15	14	12
	S	6	13	28	40	45	47	41	29	21	17	14
	SW	4	6	8	11	19	51	76	88	71	58	42
	W	4	7	9	12	14	24	60	96	105	94	69

**Types designated by and data taken from A. S. H. & A. E. See Chapter 13, tables 19 to 23 "Heating, Ventilating, Air Conditioning Guide," 1957 for complete information.*

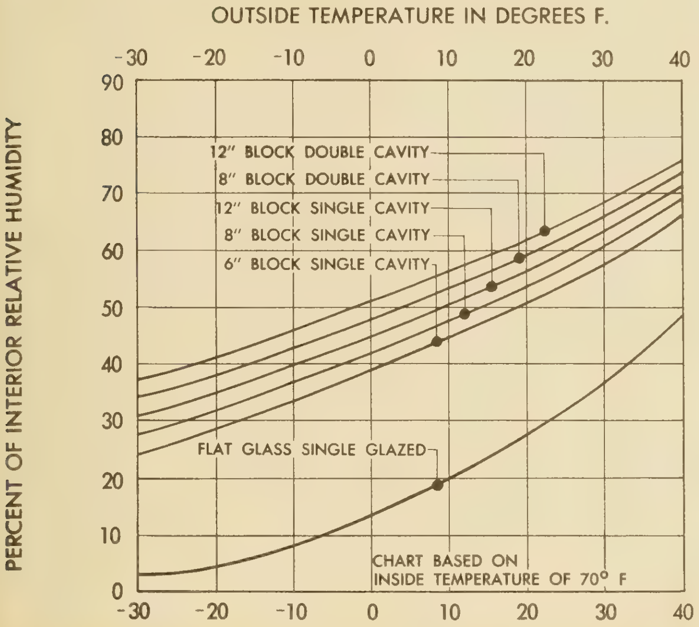
†For descriptions of PC Decorative Blocks, see page 18.

Table assumes clear atmosphere, 75°F. indoor temperature, 18° declination north (for August 1), 40° north latitude.

For industrial atmospheres, reduce total heat gain 20% on east and west elevations, 5% on south elevations.

For each degree that design room temperature exceeds 75°F., subtract 0.5 from values shown. For each degree that outdoor dry bulb temperature exceeds 95°F., add 0.5 to values shown.

GLASS BLOCK SURFACE CONDENSATION CHART



HOW TO USE THE CHART: To solve a typical problem, chart shows that with an inside temperature of 70°F. and relative humidity of 40%, it takes an outside temperature of 23° below zero to cause condensation on a panel of 12-inch double cavity LX blocks such as the Essex LX. Under the same conditions, condensation will form on a single-glazed flat glass window at 33° *above zero.*

PC PC

THERMAL INSULATION VALUES . . . the high insulation value of PC Glass Blocks is the result of two factors: first, the partial vacuum in each hermetically sealed block, and second, the fibrous glass filter in the LX and Suntrol Glass Blocks that creates two dead air spaces.

"U" VALUES (COEFFICIENT OF HEAT TRANSMISSION)

Glass Block Size and Type	"U" (Btu./hr./sq.ft./°F.)
6" square—single cavity	0.60
8" square—single cavity	0.56
8" square—double cavity	0.48
12" square—single cavity	0.52
12" square—double cavity	0.44

SOUND REDUCTION . . . the average sound reduction factor for PC Glass Blocks is 40.7 decibels, which is equal to the difference in noise level between an average factory and a quiet home.

WEATHER RESISTANCE . . . PC Glass Block panels show no sign of deterioration under severe weather cycle tests, which consist of heating, water spraying and freezing the glass surface with temperatures varying from 155°F. to —40°F.

WIND LOAD RESISTANCE . . . within recommended area limits (see Pages 20-25) PC Glass Block panels will withstand a wind load of 20 pounds per square foot with a safety factor of 2.7. Twenty pounds per square foot is equivalent, approximately, to a 75 m.p.h. wind; 54 pounds per square foot to a 130 m.p.h. wind.

STRUCTURAL STRENGTH . . . 400 to 600 pounds per square inch when uniformly loaded is the compressive strength of a PC Glass Block panel. While this is higher than many masonry constructions, never use glass blocks for load bearing walls.

DAYLIGHT ILLUMINATION*

Sun Exposure

FENESTRATION TYPE	FEET FROM FENESTRATION					
	5	10	15	20	25	30
GLASS BLOCK PANELS						
8″ PRISM B	58	43	31	22	16	13
8″ PRISM B LX	41	30	22	14	10	8
12″ PRISM B LX	43	32	23	14	10	8
8″ PRISM SUNTROL	27	20	14	9	7	5
12″ PRISM SUNTROL	28	21	15	9	7	5
8″ ESSEX	49	35	25	17	12	10
8″ ESSEX LX	35	25	18	11	9	7
12″ ESSEX LX	41	30	21	14	10	8
8″ ESSEX SUNTROL	23	16	12	7	6	5
12″ ESSEX SUNTROL	27	20	14	9	7	5
8″ BRISTOL LX	30	22	16	11	9	8
GLASS BLOCK CLERESTORY PANELS† *(Minimum Sill Height 9′)*						
8″ PRISM B	55	45	30	22	13	8
12″ PRISM B LX	41	30	18	13	8	6
SHADED VISION WINDOWS†						
SASH AND SHADES	13	8	5	4	3	2

TYPICAL DAYLIGHTING PERFORMANCE DATA

Non-Sun Exposure

FENESTRATION TYPE	FEET FROM FENESTRATION					
	5	10	15	20	25	30
GLASS BLOCK PANELS						
8″ PRISM B	35	25	18	12	10	8
8″ PRISM B LX	25	18	13	8	7	6
12″ PRISM B LX	35	25	18	12	10	8
8″ PRISM SUNTROL	16	11	8	5	4	3
12″ PRISM SUNTROL	23	17	12	8	7	5
8″ ESSEX	32	22	15	10	8	5
8″ ESSEX LX	22	14	10	8	6	4
12″ ESSEX LX	29	20	14	9	7	4
8″ ESSEX SUNTROL	14	9	7	5	4	3
12″ ESSEX SUNTROL	19	13	9	6	5	3
8″ BRISTOL	35	24	16	10	7	4
8″ BRISTOL LX	22	16	11	7	5	3
GLASS BLOCK CLERESTORY PANELS† *(Minimum Sill Height 9′)*						
8″ PRISM B	38	26	16	14	9	7
SHADED VISION WINDOWS†						
SASH AND SHADES	12	9	6	5	4	3

---

*Daylight illumination on the work plane in footcandles for each 1000 footcandles on exterior plane of fenestration.

†All data assumes each fenestration area equal to 25% of floor area. (Large panel+Clerestory+Vision Window Area=75%). Reduce in proportion for smaller areas.

Skytrol Blocks are 12-inch square Functional Glass Blocks designed for use in skylights.

Ordinary skylights present several practical problems. They are: poor quality of light, high maintenance costs, high heat loss and condensation. Skytrol answers all of these problems.

Illumination is the most important Skytrol feature. A 5-block wide Skytrol panel, for example, gives 22 footcandles on a desk top 7 feet from the panel centerline, even on an average overcast day (1000 footcandles on panel).

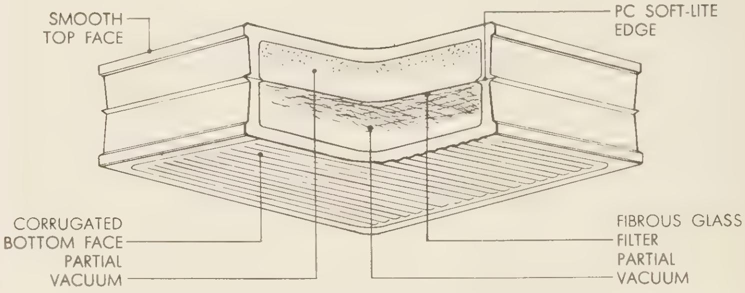
Skytrol blocks have over twice the insulating value of an ordinary skylight and therefore hold down heating costs. The "U" value of Skytrol is 0.44; for flat glass it is 1.13.

Only under extreme temperature and humidity conditions will condensation form on a Skytrol panel (see curve for 12″ block—double cavity on condensation chart, Page 13).

For unusually bright locations, Skytrol is available with the pale green Suntrol diffusing filter. This filter not only reduces brightness by 35%, but also reduces instantaneous heat gain by 25%.

For complete information, including installation methods for Skytrol Blocks, ask your PC Architectural Representative for Booklet GB-105 or contact our office nearest you (see Page 31).

SKYTROL® BLOCK FEATURES

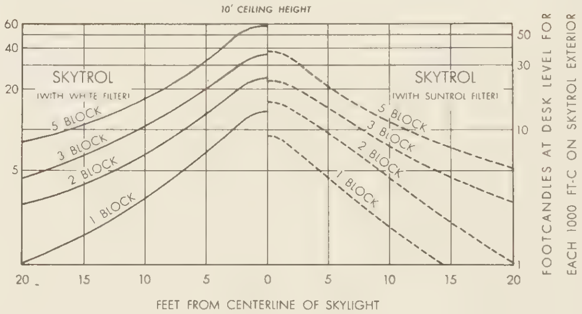


BLOCK DIMENSIONS: 3⅞″ THICK X 11¾″ X 11¾″

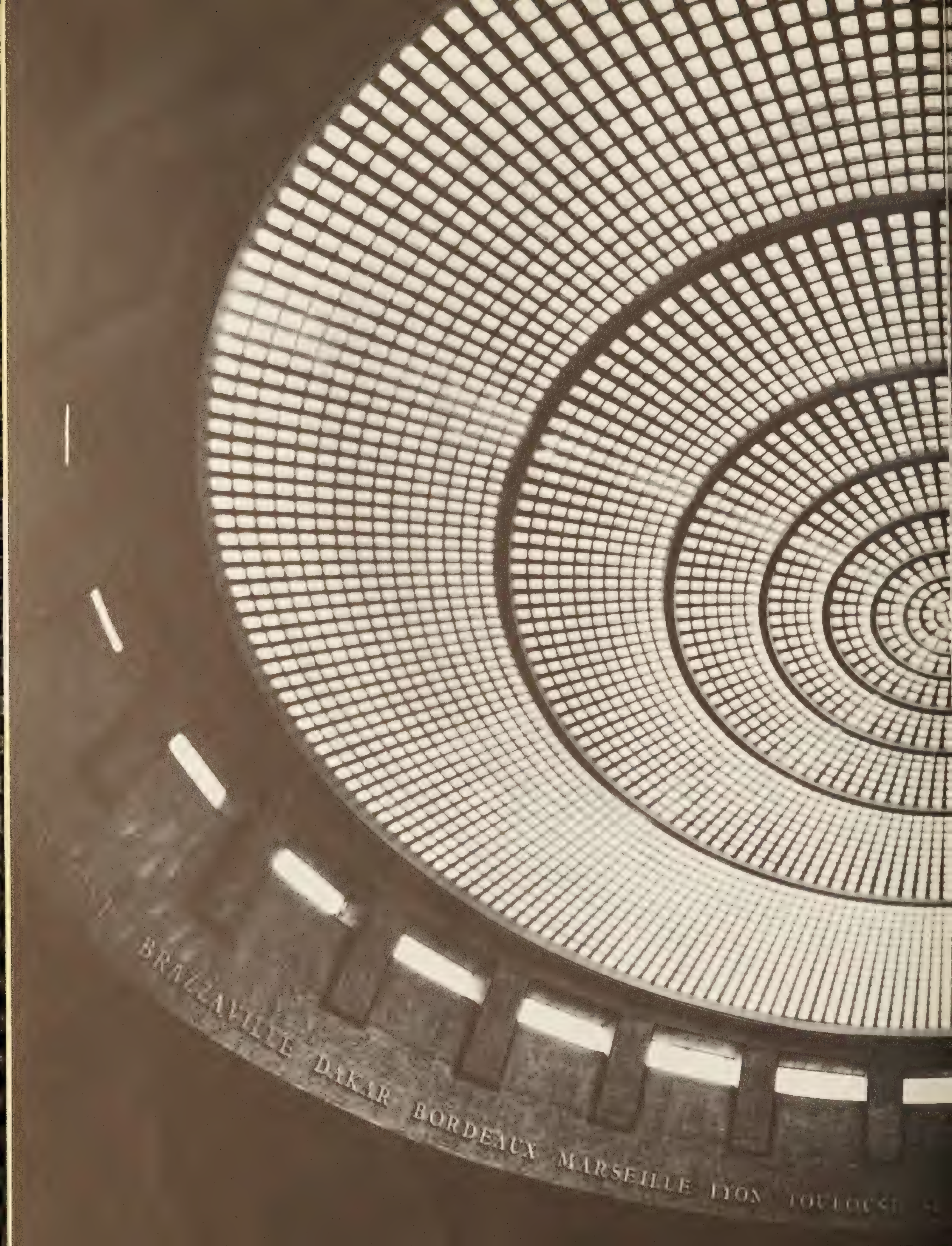
SKYTROL BLOCKS FOR TOPLIGHTING

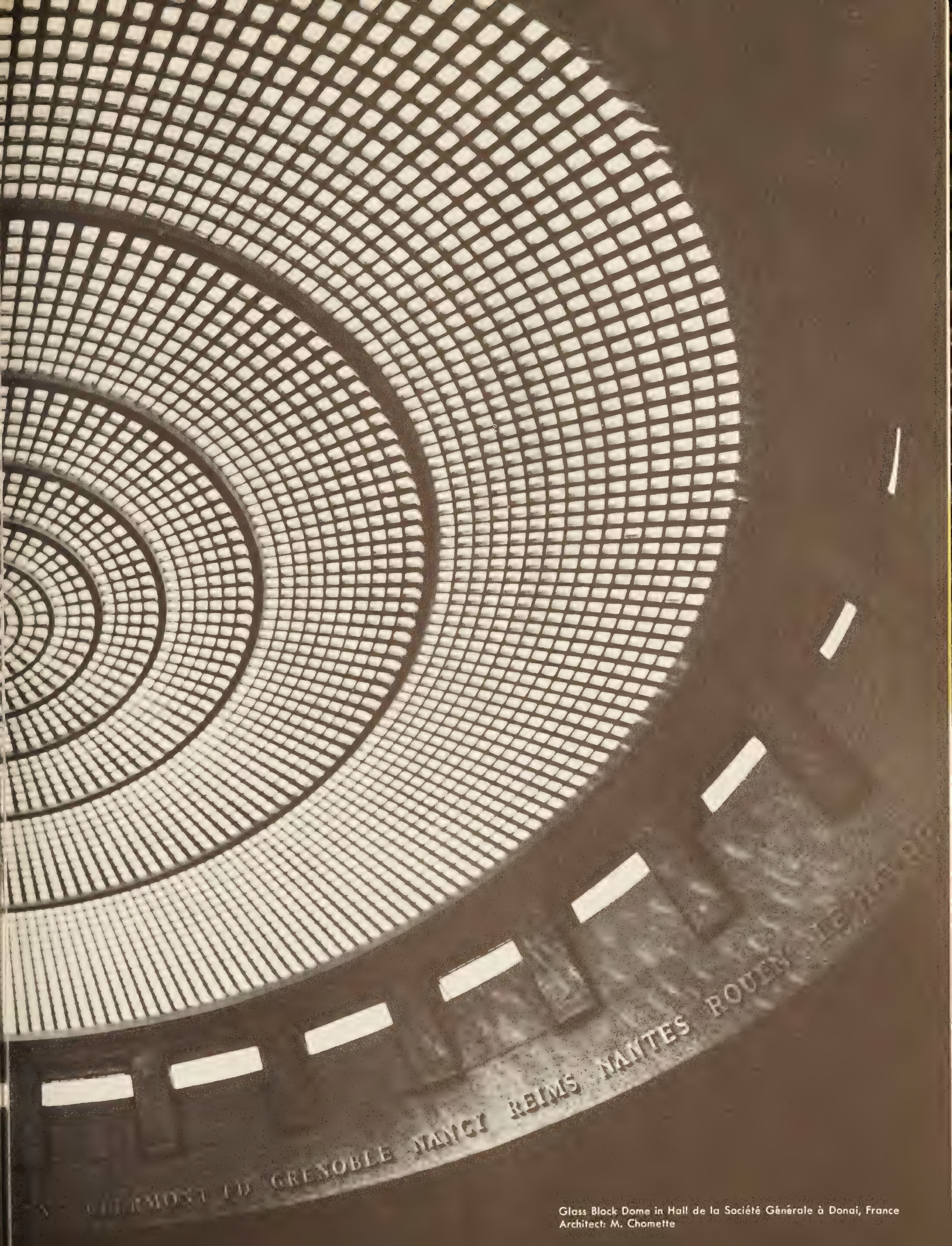
LIGHT DISTRIBUTION FROM SKYTROL PANELS

BASED ON EXTERIOR ILLUMINATION OF 1000 FT-C



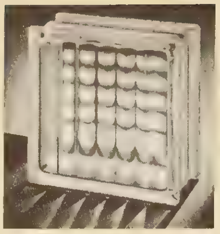
This is a Skytrol test room at the PC Daylighting Research Center. Photocells are used to take simultaneous readings in all parts of the room. Notice the magnificent quality of the light.


BRAZZAVILLE DAKAR BORDEAUX MARSEILLE LYON TOULOUSE

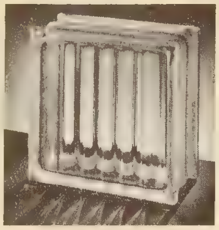


Glass Block Dome in Hall de la Société Générale à Donai, France
Architect: M. Chomette

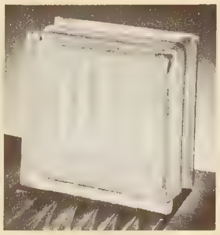
ARGUS gives high light transmission and good privacy. The outer faces are smooth and the rounded flutes on the inner faces are at right angles to each other. It can be laid with flutes on one side either horizontal or vertical. Available in 6, 8, and 12-inch squares.



ARGUS PARALLEL FLUTES gives high light transmission and fair privacy. It is the same basic block as the ARGUS, except that the flutes on both faces are parallel. This block can be laid with flutes vertical or horizontal. Available in 6, 8, and 12-inch squares.



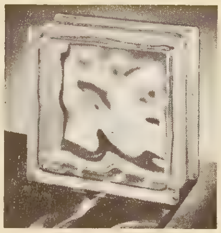
ARGUS PARALLEL FLUTES LX gives uniform brightness, good light transmission and complete privacy. This block is the same as ARGUS PARALLEL FLUTES but has an LX fibrous glass diffusing filter for increased light diffusion and better insulation. Available in 8-inch squares.



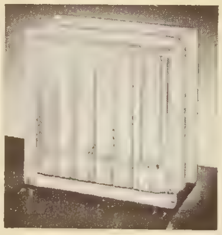
DECORATIVE BLOCKS
SIX TEXTURE TYPES

These blocks as the name suggests are intended solely for *decorative* purposes. They are not recommended where superior daylighting is the important goal. They are intended for installations where the decorative appearance of the panel outweighs its daylighting characteristics. Decorative blocks transmit plenty of light, but they don't control it as well as functional patterns. They are not *designed* to control daylight.

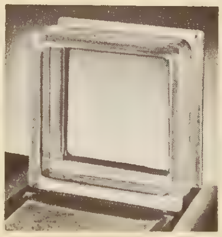
DECORA gives high light transmission and can be laid without considering which edge is either side or top. The design is pressed into the inner faces, and the outer faces of the block are smooth. This block is almost transparent and is not recommended for use on sun exposures. Available in 6, 8, and 12-inch squares.



SAXON gives good light transmission and is uniformly bright in sunlight. It offers complete privacy. It has shallow, narrow reeds on its outer faces, parallel to wide flutes on the inner faces which are lightly etched. Usually it is installed with the narrow outer reeds vertical to make cleaning easy. Available in 12-inch squares only.



VUE gives high light transmission and good visibility through the block. It is frequently used in panels of other patterns to provide a vision area where desired. It can be laid without regard to which edge is side or top. Both the outer and inner faces are smooth and clear. Available in 8 and 12-inch squares.



DECORATIVE BLOCKS—PATTERNS AND SIZES

PATTERN NAME	6″	8″	12″
ARGUS	■	■	■
ARGUS PARALLEL FLUTES	■	■	■
ARGUS PARALLEL FLUTES LX		■	
DECORA	■	■	■
SAXON			■
VUE		■	■

Actual block dimensions:
6 inch size— 5¾″ x 5¾″
8 inch size— 7¾″ x 7¾″
12 inch size— 11¾″ x 11¾″

All blocks are 3⅞″ thick.

MODULAR COORDINATION

All PC Glass Blocks are made in modular coordinated sizes. They can be laid in the standard grid based on a module of 4 inches. Information on Modular Coordination can be obtained from the Modular Building Standards Association, 2029 K Street, N.W., Washington 6, D. C.

GLASS BLOCK LAYOUT TABLE

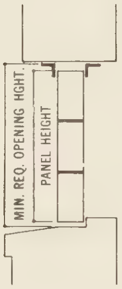
GLASS BLOCK LAYOUT TABLE

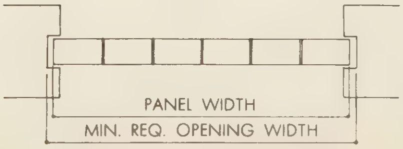
This table is based on Modular Coordination assuming ⅜″ mortar joints in face brick and ¼″ mortar joints between glass blocks. For minimum required opening width, find table dimension and add ½″. For minimum required opening height, find table dimension and add ⅜″ plus minimum lintel deflection.

No. of Blocks	Block Sizes 6″	8″	12″
1	0′ 6″	0′ 8″	1′ 0″
2	1′ 0″	1′ 4″	2′ 0″
3	1′ 6″	2′ 0″	3′ 0″
4	2′ 0″	2′ 8″	4′ 0″
5	2′ 6″	3′ 4″	5′ 0″
6	3′ 0″	4′ 0″	6′ 0″
7	3′ 6″	4′ 8″	7′ 0″
8	4′ 0″	5′ 4″	8′ 0″
9	4′ 6″	6′ 0″	9′ 0″
10	5′ 0″	6′ 8″	10′ 0″
11	5′ 6″	7′ 4″	11′ 0″
12	6′ 0″	8′ 0″	12′ 0″
13	6′ 6″	8′ 8″	13′ 0″
14	7′ 0″	9′ 4″	14′ 0″
15	7′ 6″	10′ 0″	15′ 0″
16	8′ 0″	10′ 8″	16′ 0″
17	8′ 6″	11′ 4″	17′ 0″
18	9′ 0″	12′ 0″	18′ 0″
19	9′ 6″	12′ 8″	19′ 0″
20	10′ 0″	13′ 4″	20′ 0″
21	10′ 6″	14′ 0″	21′ 0″
22	11′ 0″	14′ 8″	22′ 0″
23	11′ 6″	15′ 4″	23′ 0″
24	12′ 0″	16′ 0″	24′ 0″
25	12′ 6″	16′ 8″	25′ 0″

CHASE CONSTRUCTION

SIZE LIMITATIONS
MAX. AREA 144 SQ. FT.
MAX. HEIGHT 20 FEET
MAX. WIDTH 25 FEET





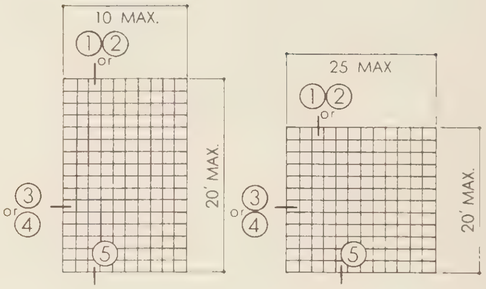
GENERAL NOTES

On Pages 20 through 25 are shown elevations and sections of typical glass block panels. The large scale sections are typical head, jamb and sill details to show principles of construction only. Any structural members must be calculated for safe loading, and local building codes checked for any possible restrictions on panel sizes or detail. While single panels of glass block are limited to a maximum of 144 square feet, panels or curtain walls up to a maximum area of 250 square feet may be erected if properly braced to limit movement and settlement.

Panel anchors which are shown in details on Page 22 are used to give lateral support for glass block panels. If panel anchors cannot be used, substitute the chase construction that is shown on Pages 20-21.

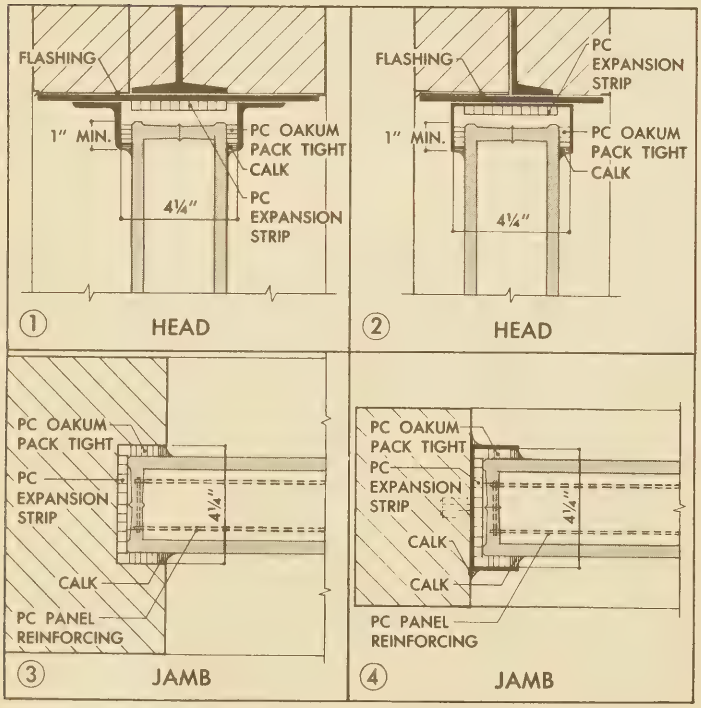
Any glass block installation that is made in a wood partition shall have the wood adjacent to the mortar properly primed.

Underwriters' Listing. PC Glass Block panels, when installed in accordance with the special instructions on the glass block cartons, may be used for window openings subject to light fire exposure (Class F openings). Authorities having jurisdiction should be consulted before installation. For exact listing consult Pittsburgh Corning Corporation.

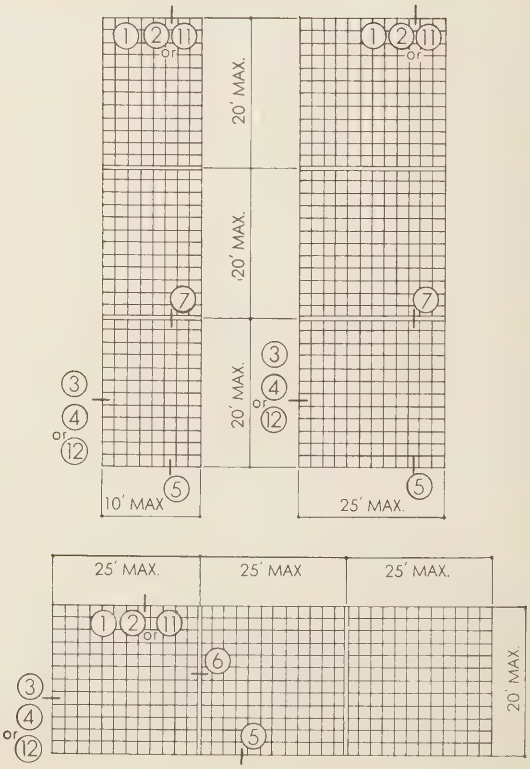


INDIVIDUAL PANELS
144 SQ. FT. MAX. AREA

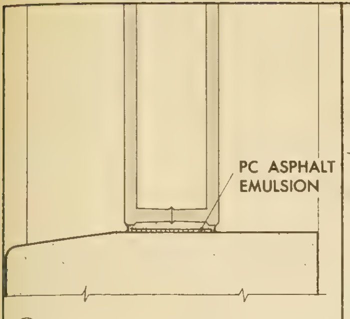
TYPICAL DETAILS UP TO 250 SQ. FT.



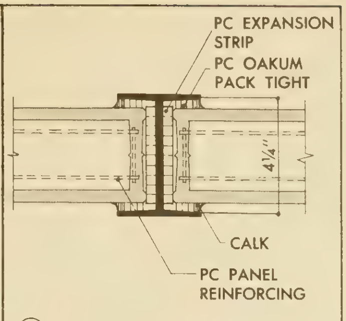
Scale: 1½" = 1'-0"



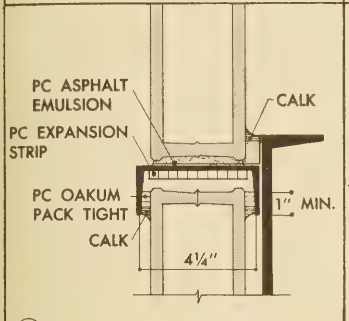
CONTINUOUS PANELS
EACH PANEL 144 SQ. FT. MAX. AREA



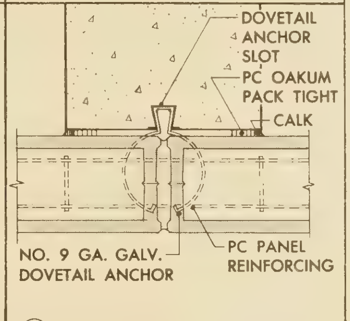
⑤ SILL



⑥ MULLION

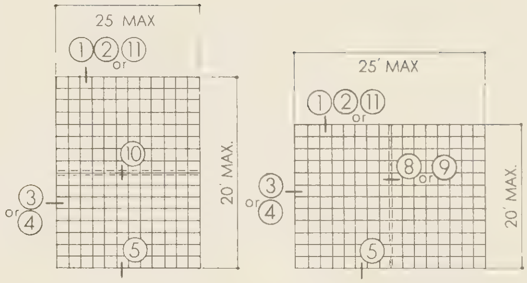


⑦ SHELF



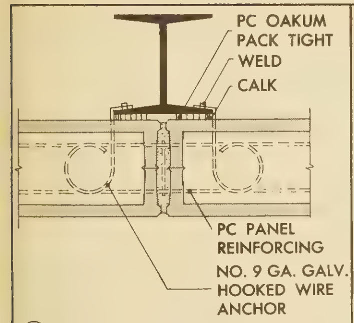
⑧ VERTICAL STIFFENER

Scale: 1½" = 1'-0"

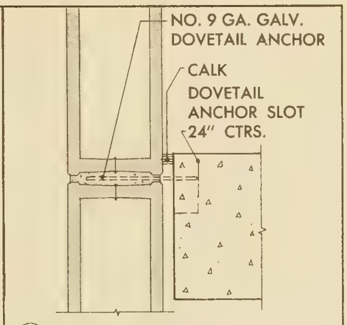


INDIVIDUAL PANELS
250 SQ. FT. MAX. AREA

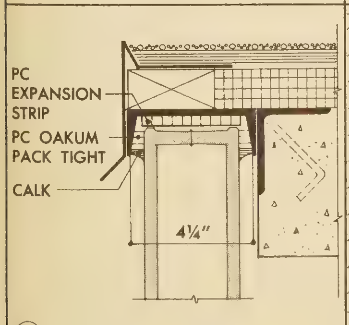
CURTAIN WALLS AND EXTERIOR PANELS



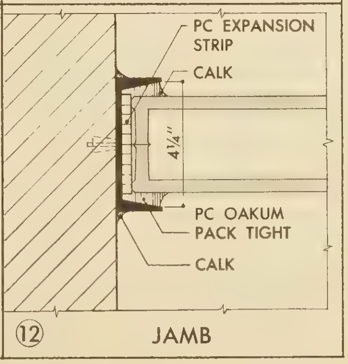
⑨ VERTICAL STIFFENER



⑩ HORIZONTAL STIFFENER

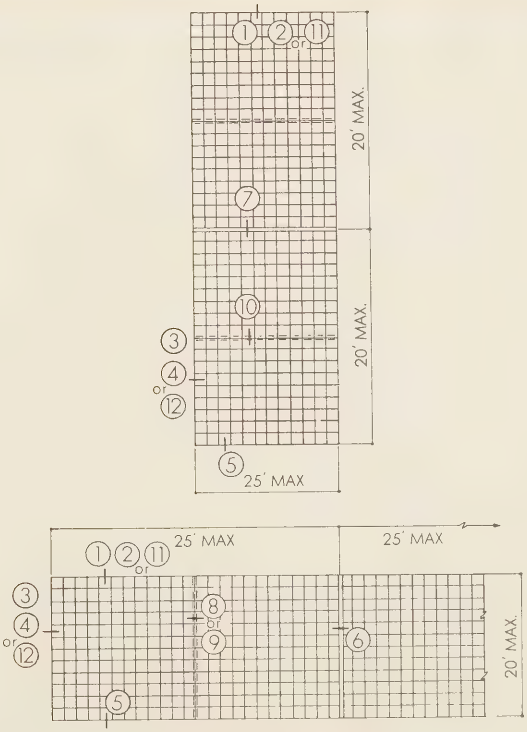


⑪ HEAD

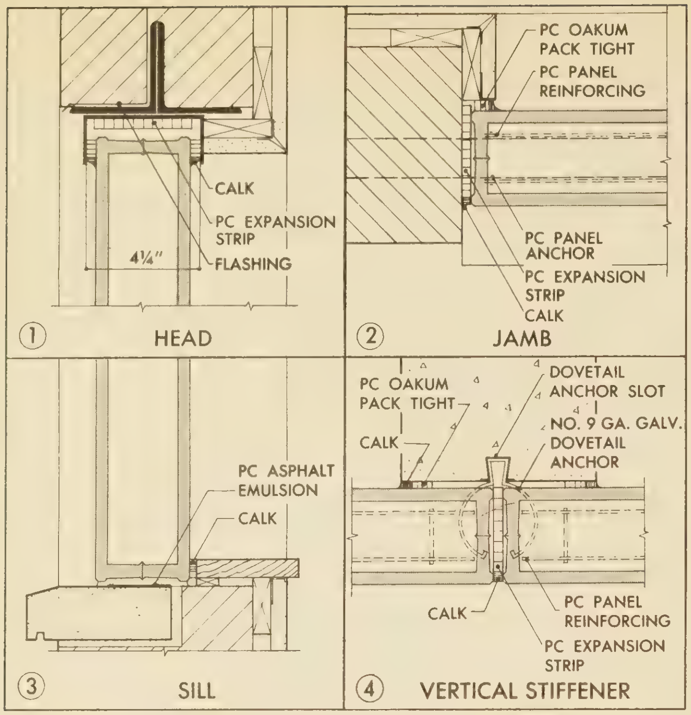


⑫ JAMB

Scale: 1½" = 1'-0"

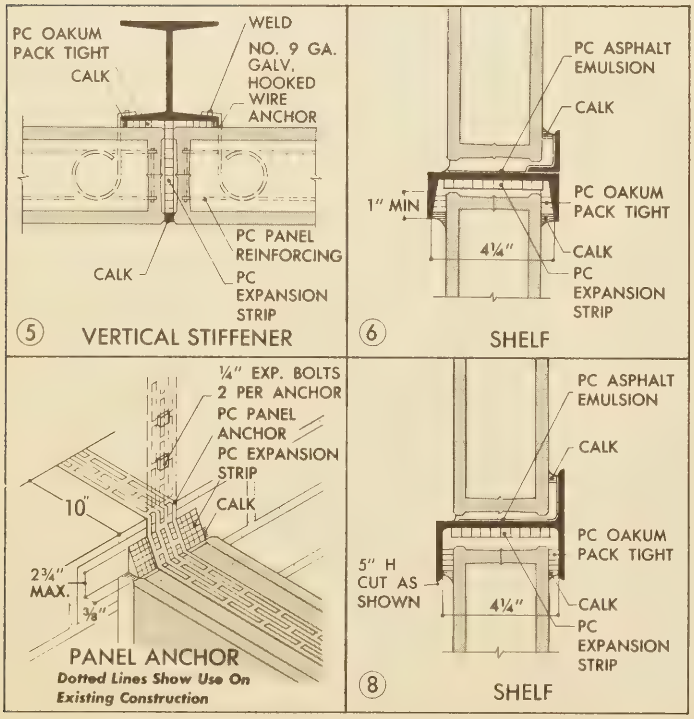


CONTINUOUS PANELS
EACH PANEL 250 SQ. FT. MAX. AREA

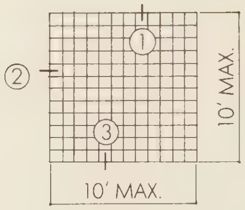


Scale: 1½" = 1'-0"

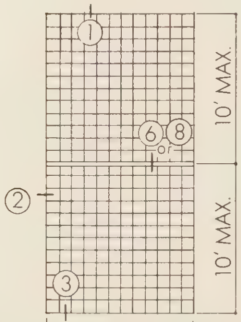
EXTERIOR PANELS UP TO 100 SQ. FT.



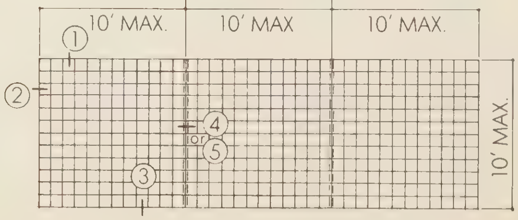
Scale: 1½" = 1'-0"

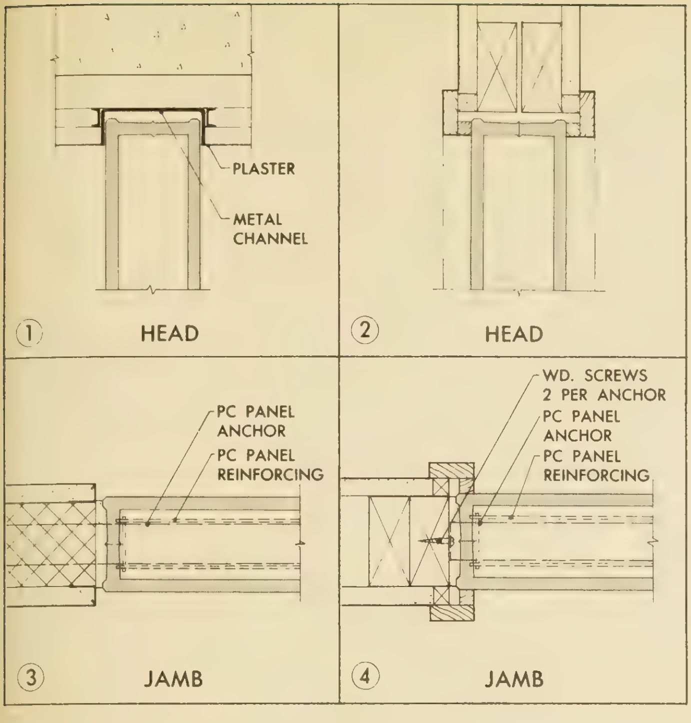


INDIVIDUAL PANELS



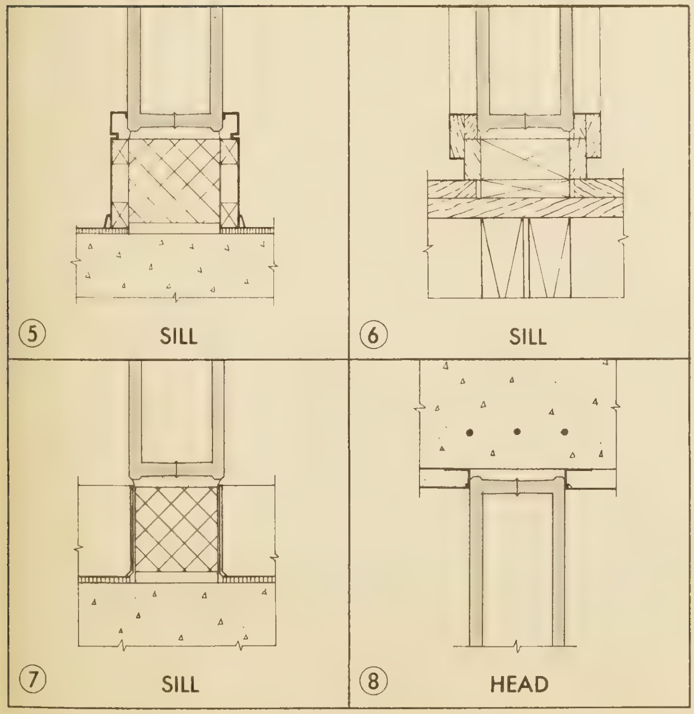
CONTINUOUS PANELS
EACH PANEL 100 SQ. FT.
MAX. AREA



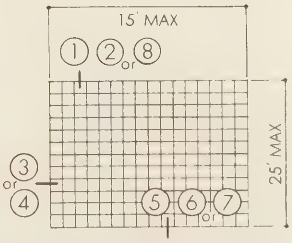


Scale: 1½″ = 1′-0″

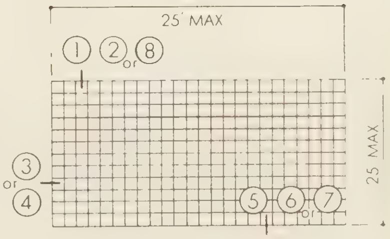
INTERIOR PANELS TYPICAL DETAILS



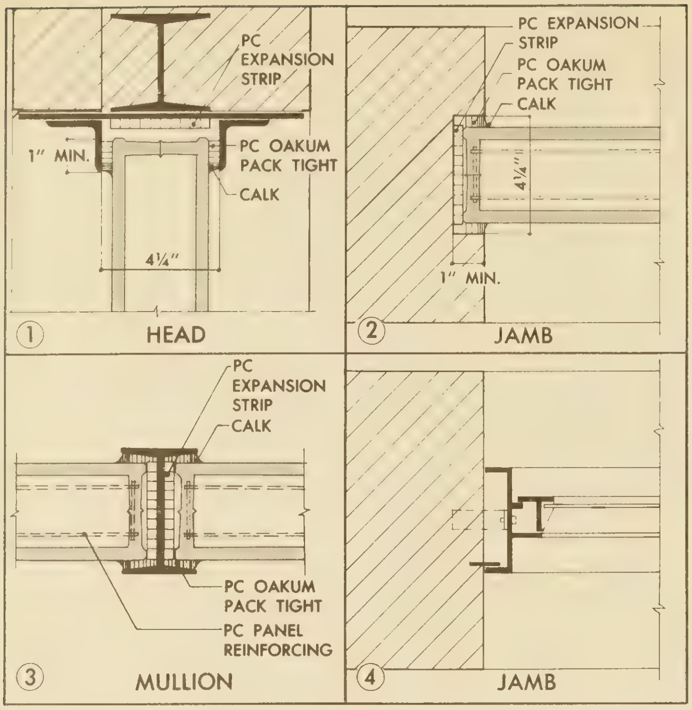
Scale: 1½″ = 1′-0″



INDIVIDUAL PANELS
144 SQ. FT. MAX. AREA

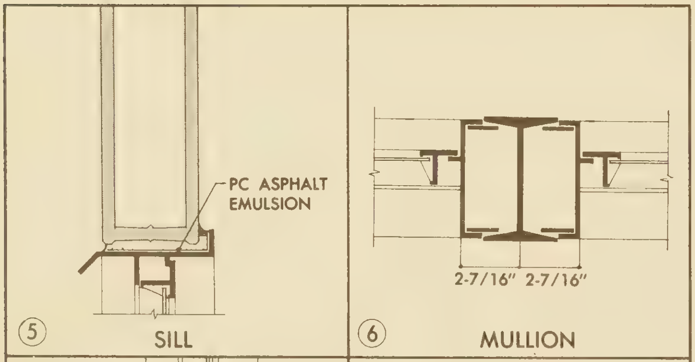


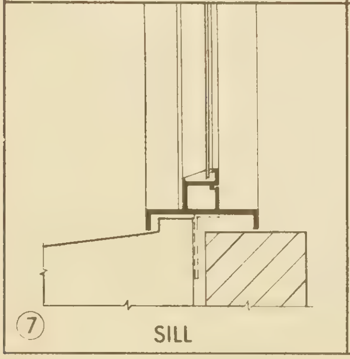
INDIVIDUAL PANELS
250 SQ. FT. MAX. AREA



Scale: 1½" = 1'-0"

RIBBON WINDOWS TYPICAL DETAILS

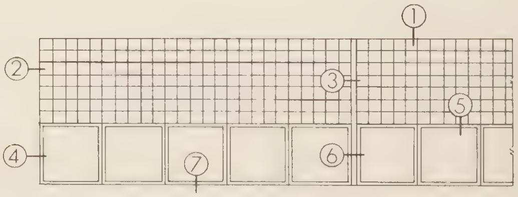


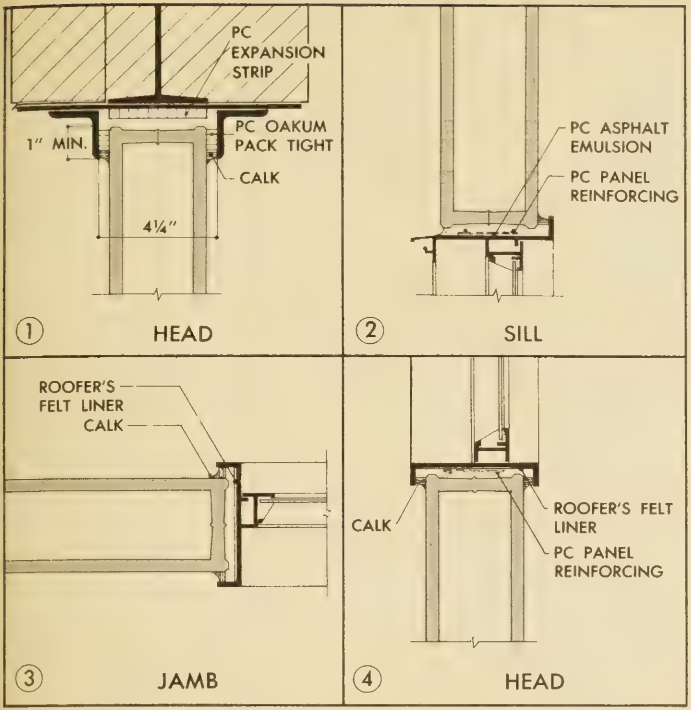


In ribbon window installations, the heavy type sash can be installed in lengths up to 25' 0" with a maximum sash size 48" x 48". The standard ribbon window sash can be installed in lengths up to 12' 0" with a maximum sash size 36" x 36". All ribbon windows are factory-assembled with continuous head and sill members up to the maximum lengths noted above. We suggest that you consult the manufacturers of ribbon windows for full details.

The Glass Block and Ribbon Window Standards Committee has recommended new standards for ribbon window and glass block combinations. These standards, which simplify the selection of window units, are available upon request from the Pittsburgh Corning Corporation.

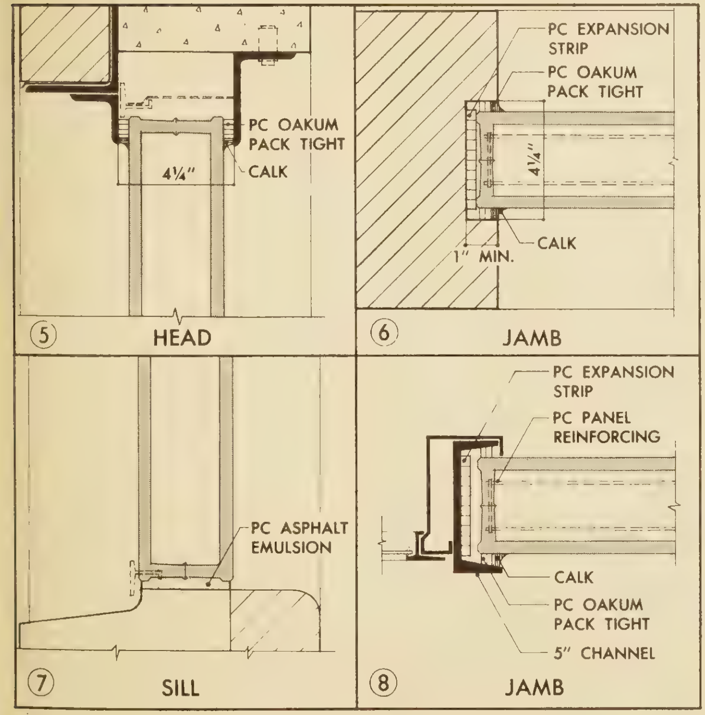
Scale: 1½" = 1'-0"





Scale: 1½" = 1'-0"

VERTICAL WINDOWS AND VENTILATORS



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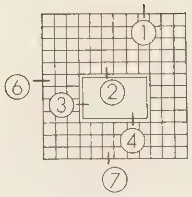
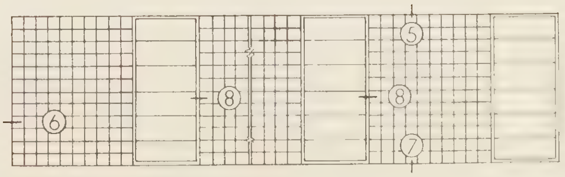
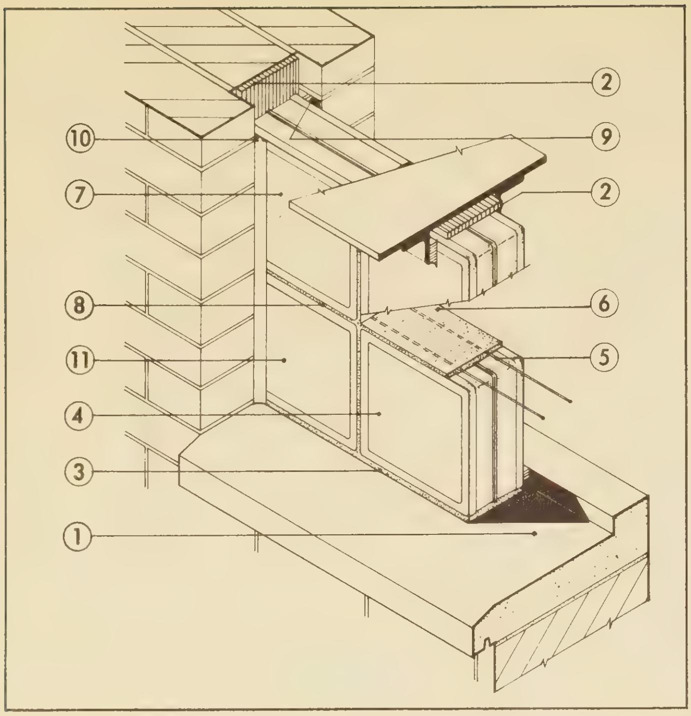






INSTALLATION OF GLASS BLOCKS

1. Sill area to be covered by mortar shall have a heavy coat of PC Asphalt Emulsion.
2. Adhere PC Expansion Strips to jambs and head with gobs of PC Asphalt Emulsion. Make certain expansion strip extends to sill.
3. When emulsion on sill is dry, place full mortar bed joint—do not furrow.
4. Set lower course of block. All mortar joints must be full and not furrowed. Steel tools must not be used to tap blocks into position.
5. Install PC Panel Reinforcing in horizontal joints where required as follows:
    (a) Place lower half of mortar bed joint. Do not furrow.
    (b) Press panel reinforcing in place.
    (c) Cover panel reinforcing with upper half of mortar bed and trowel smooth. Do not furrow.
    (d) Panel reinforcing must run from end to end of panels and where used continuously must lap 6 inches. Reinforcing must not bridge expansion joints.
6. Place full mortar bed for joints not requiring panel reinforcing—do not furrow.
7. Follow above instructions for setting succeeding courses of blocks.
8. Strike joints smoothly while mortar is still plastic and before final set. At this time rake out all spaces requiring calking to a depth equal to the width of the spaces. Remove surplus mortar from faces of glass blocks and wipe dry. Tool joints smooth and concave, before mortar takes final set.
9. After final mortar set pack PC Oakum tightly between glass block panel and jamb and head construction. Leave space for calking.
10. Calk panels as indicated on details.
11. Final cleaning of glass block faces shall not be done until after final mortar set.

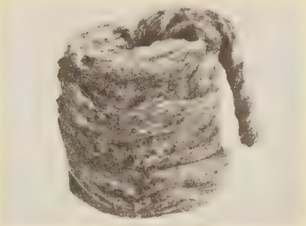
Note: Good workmanship is essential to obtaining watertight panels. This is particularly important in the construction of Glass Block Curtain Walls. Follow the installation procedure above and the specifications on Pages 28 and 29 for best results.

PC ASPHALT EMULSION—To be used on all sills to form a waterproof joint. Also used to adhere expansion strips to jambs and heads before installing glass blocks. See specifications (page 28) for proper application.
For sills and adhering of expansion strips estimate one (1) gallon for approximately 150 lin. ft.
Available in one-quart, one-gallon and five-gallon containers.

PC MORTAR WATERPROOFER — To be added to the mortar to conform with PC specifications. Use one (1) quart per bag of cement. (See Estimating Data below.)
Available in one-quart, one-gallon and five-gallon containers.

PC
MORTAR
WATERPROOFER
NV 3389
For PC Glass Block Installations
PITTSBURGH CORNING CORPORATION

PC OAKUM — (Non-Staining, dry-rot treated, sliver type)—To be used as a lateral cushioning for glass block panels by tightly packing between panel faces and the supporting structure. See details for proper application.
For packing both faces of panels laid up in 4¼″ wide chases, estimate 2½ lbs. (one tube) for 30 lin. ft. of chase.
Available in wound tubes, weighing 2½ lbs. net, packaged in handy dispenser cartons. Six individually-packaged tubes per shipping carton.

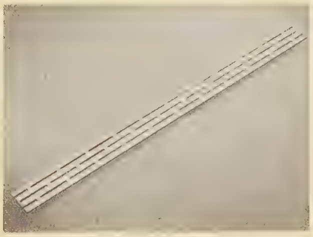


ACCESSORY MATERIALS FOR PC GLASS BLOCKS

PC EXPANSION STRIPS—To be used in expansion spaces at jambs and heads installed in accordance with PC specifications.
Available in the following size:
⅜″ x 4⅛″ x 24″ (for use in chase construction).
For panel anchor construction, standard 4⅛″ wide strips can easily be cut to 3″ width required.

PC PANEL REINFORCING — To be used in horizontal joints of glass block panels, spaced and installed in accordance with PC specifications. Panel Reinforcing is formed of two No. 9 gage galvanized wires spaced 2″ apart with No. 14 gage galvanized cross wires welded every 8″.
Available in 8′ lengths.

PC PANEL ANCHORS — To be used for supporting panels up to 100 sq. ft. in area where permitted by building code requirements. Spaced and installed in accordance with PC specifications. Panel Anchors are No. 20 gage perforated steel galvanized after fabrication.
Available in 2′-0″ lengths, 1¾″ wide.



ESTIMATING DATA

for 100 sq. ft. of panel, ¼″ mortar joints

nominal block size	6″	8″	12″
no. of blocks	400	225	100
panel weight, lbs.	2000	1800	1900
mortar volume, cu. ft.	4.3	3.2	2.2

SUGGESTED SPECIFICATIONS

GENERAL CONDITIONS: The "General Conditions" of the contract are a part of these specifications.

SCOPE OF THE WORK: This contractor shall furnish all labor and materials to install all glass blocks where shown on the drawings or specified hereinunder. This shall include the furnishing and installation of all expansion strips, oakum packing, panel reinforcing, panel anchors, calking, asphalt emulsion, and other labor materials necessary for a complete installation. This contract does not include the preparation of the structure to receive the glass block panels, such as chases, stiffeners, etc., except as hereinafter specified.

MATERIALS: Glass Blocks . . . shall be partially evacuated, hollow masonry units made of clear, colorless glass, as manufactured by the Pittsburgh Corning Corporation. These units shall be made by fusing two sections of pressed glass together at elevated temperatures. Edge construction of the units shall be such that a "key-lock" mortar joint is formed. Each unit shall be edge-coated with a resilient plastic to improve bond with mortar. Color Glass Blocks shall be as manufactured by Pittsburgh Corning Corporation and shall consist of a fired-on ceramic enamel coating on one face of a standard unit as described above.

Patterns—Sizes . . . shall be as shown on the drawings or as specified hereinunder: (Indicate PC patterns, sizes and locations. Where applicable indicate Soft-Lite Edge).

Expansion Strips . . . where shown or required, shall be PC Expansion Strips as furnished by the Pittsburgh Corning Corporation.

Asphalt Emulsion . . . where shown or required, shall be PC Asphalt Emulsion as furnished by the Pittsburgh Corning Corporation.

Panel Reinforcing . . . shall be PC Panel Reinforcing of galvanized steel double wire mesh formed of two parallel wires (No. 9 gage) 2 in. on centers with electrically welded cross wires (No. 14 gage) at regular intervals. This reinforcing shall be embedded in horizontal mortar joints on approximately 24 in. centers, and in joints immediately above and below all openings within panels. Reinforcing shall run continuously from end to end of panels and shall be lapped not less than 6 in. wherever it is necessary to use more than one length. Do not bridge expansion joints with reinforcing.

Panel Anchors . . . where shown on drawings shall be PC Panel Anchors as furnished by the Pittsburgh Corning Corporation and shall be No. 20 gage perforated steel strips 24 in. long by 1¾ in. wide galvanized after perforating. All panel anchors must be bent within expansion joints, and shall generally be placed 24 in. apart occurring in the same joint as panel reinforcing and must be completely embedded in the mortar joint of the glass block panels.

Mortar . . . shall be 1 part Portland Cement, ¼ to 1¼ parts lime, and sand equal to between 2¼ and 3 times the amount of cementitious material (cement plus lime), all measured by volume, plus an integral type waterproofer. If a waterproof Portland Cement is used, the integral type waterproofer shall be omitted. For interior panels the waterproofer shall be omitted.

Admixtures in the form of setting accelerators and anti-freeze compounds shall not be used.

If desired, a mortar prepared from masonry cement meeting requirements of ASTM C-91, Type II, incorporating a metallic stearate-type waterproofer, and mixed in accordance with the manufacturer's recommendations is an acceptable alternate.

Any combinations of the above mortar mixes will fall within types A-1, A-2 or B mortar as recommended by the "American Standard Building Code Requirements for Masonry," and approved by the American Standards Association as American Standard A41.1 (as revised), or specifications for Mortar for Unit Masonry, ASTM Designation C-270.

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Mixing: The mortar shall be mixed to a consistency as stiff as will permit good working and shall be drier than mortar for ordinary brickwork. Retempering the mortar after it has taken its initial set shall not be permitted.

Mortar Type	PROPORTIONS BY VOLUME			Minimum Compressive Strength of 2″ Cube at 28 days (P.S.I.)
	Portland Cement	Hydrated Lime or Lime Putty (Allowable Range)	Aggregate	
A-1	1	¼*	Between 2¼ and 3 times the volume of cementitious materials (cement plus lime)	2500
A-2	1	More than ¼ but less than ½	Between 2¼ and 3 times the volume of cementitious materials (cement plus lime)	1800
B	1	½ to 1¼	Between 2¼ and 3 times the volume of cementitious materials (cement plus lime)	750

***Maximum and minimum.**

***Portland Cement*...** shall be Type 1 conforming to the Standard Specifications for Portland Cement, ASTM Designation C-150-49. If waterproof Portland Cement is used it shall be of a type as specified by the Architect. If desired, a waterproof, high early-strength Portland Cement may be used.

***Lime*...** shall be a high calcium lime, or a pressure-hydrated dolomitic lime, meeting the requirements of specifications for Hydrated Lime for Masonry Purposes, ASTM Designation C-207, Type S.

***Sand*...** shall conform with the Standard Specifications for Aggregate for Masonry Mortar, ASTM Designation C-144-44, for thin joints.

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***Waterproofer*...** shall be PC Mortar Waterproofer Type NV-3389 (metallic stearate type). It shall be added to the mortar at the time of mixing and in the proportion shown on the can label, except where a waterproof Portland Cement or prepared waterproofed masonry cement mortar is used. In the latter cases, no waterproofer shall be added at the time of mixing.

Oakum... where indicated on drawings or required as a lateral cushioning for glass block panels at jambs, heads and intermediate supports, shall be PC Oakum (non-staining, dry-rot treated, sliver type) as furnished by the Pittsburgh Corning Corporation.

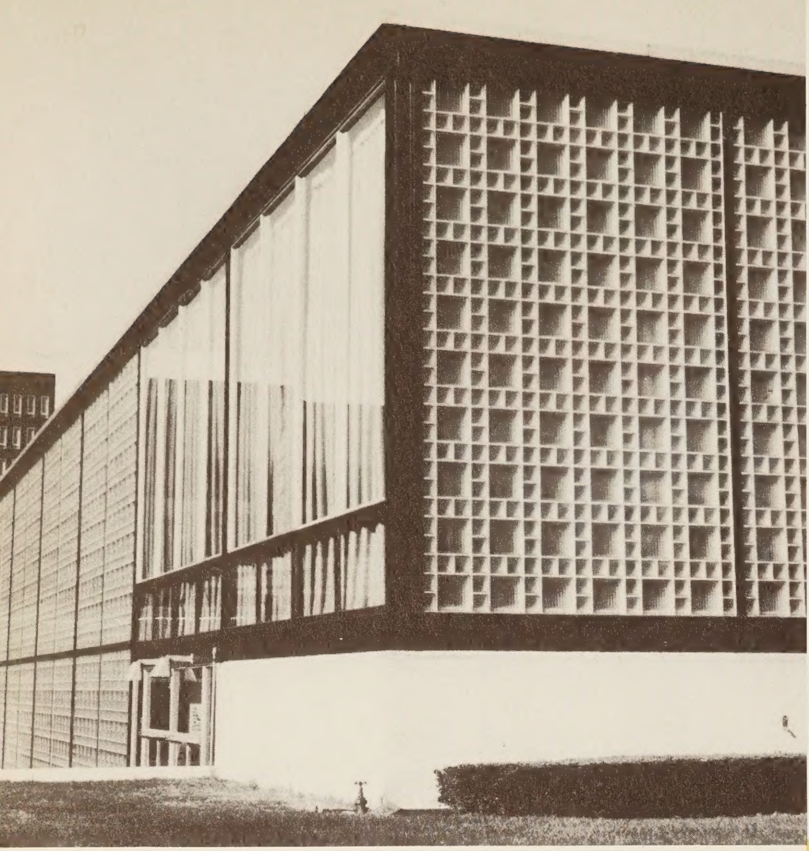
Calking... shall be as specified by the Architect and shall be a non-staining, waterproof mastic. This shall be evenly applied to the full depth of recesses as indicated on the details.

Flashings... Unless otherwise specified, contractor shall furnish and install in locations shown or where required, flashings as are necessary to provide a complete installation.

INSTALLATION... Areas at the sill to be covered by mortar shall be given a heavy coat of asphalt emulsion which shall be allowed to dry before blocks are laid. Where required, expansion strips shall be adhered to head and jambs by the use of gobs of asphalt emulsion and shall run continuously from end to end of expansion space.

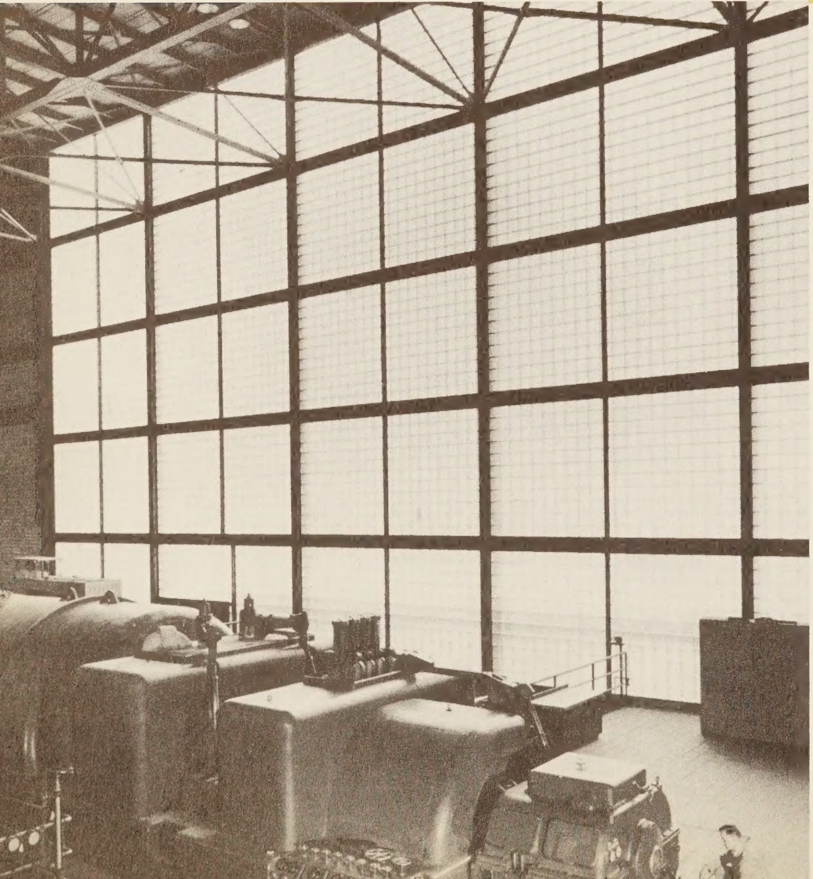
All mortar joints must be completely filled with mortar and shall not be furrowed. Mortar must not bridge across expansion joints. Blocks shall be laid straight, plumb and true to dimensions, with ¼ in., or as otherwise specified, visible width mortar joints. Joints shall be tooled smooth and slightly concave just before mortar attains initial set so that the exposed edges of the blocks are sharp, clean lines. The number of courses of blocks laid in successive lifts shall be limited to prevent squeezing out of the mortar and movement of the blocks.

CLEANING... Surplus mortar shall be removed and the faces of the blocks shall be wiped dry at the time joints are tooled. Cleaning is facilitated by the use of an ordinary household scrub brush having stiff bristles. Final cleaning shall be done by others after mortar has attained final set.



CORNING GLASS CENTER
Corning, New York
Architects: Harrison & Abramovitz, A.I.A., New York

GLASS BLOCK CURTAIN WALLS



AVERY CLASSICS

CROMBY STATION, PHILADELPHIA ELECTRIC COMPANY
Philadelphia, Pennsylvania
Consulting Architects: Harbeson, Hough, Livingston & Larson, A.I.A., Philadelphia

NEW YORK SCHOOL OF PRINTING
New York, New York
Architects: Kelly & Gruzen, A.I.A., New York

PITTSBURGH CORNING SALES OFFICES

For further information on PC Glass Blocks, contact the General Office in Pittsburgh or the nearest sales office listed below:

BOSTON, MASSACHUSETTS
(Watertown 72, Mass.)
106 Galen Street
WAtertown 3-0611

NEW YORK 17, NEW YORK
579 Fifth Avenue
MUrray Hill 8-8350

CHICAGO 6, ILLINOIS
The Engineering Building
205 West Wacker Drive
FInancial 6-2376

PHILADELPHIA 2, PENNSYLVANIA
Lewis Tower Building
225 South Fifteenth Street
KIngsley 6-3510

DETROIT 35, MICHIGAN
18063 James Couzens Highway
UNiversity 4-0154

TORONTO, ONTARIO, CANADA
57 Bloor Street, W.
WAlnut 1-1961

PITTSBURGH CORNING CORPORATION
One Gateway Center
Pittsburgh 22, Pennsylvania
COurt 1-2900

Brochure designed by
Architects Kelly and Kress
and Associates

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GLASS BLOCKS

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